CLAIMS

1.   A gateway network element that provides access to network elements that are not directly reachable, comprising:

5   a processor that is directed by code;

          code that receives and sends packets over a first IP based interface to a first network;

          code that receives and sends packets over a second IP based interface to a second network, wherein IP addresses of network elements in the second network are not visible
10   to network elements in the first network; and

          code that filters out packets received over the second IP based interface that specify the gateway network element as the source.

2.   The gateway network element of claim 1, further comprising code that
15   sends packets over the first IP based interface only when the packets specify the gateway network element as the source.

3.   The gateway network element of claim 1, further comprising code that accepts packets received over the first IP based interface if the destination address
20   specifies the gateway network element, a subnet broadcast address or a multicast address.

4.   The gateway network element of claim 1, further comprising code that implements a proxy server that provides forwarding between IP address of the first and second networks.

5.   The gateway network element of claim 1, wherein the first network is a DCN.

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6.   The gateway network element of claim 1, wherein the first network is a DCC.

7.   A gateway network element that provides access to network elements that are not directly reachable, comprising:

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a processor that is directed by code;

means for receiving and sending packets over a first IP based interface to a first network;

means for receiving and sending packets over a second IP based interface to a second network, wherein IP addresses of network elements in the second network are not visible to network elements in the first network; and

means for filtering out packets received over the second IP based interface that specify the gateway network element as the source.

20   8.   A method for providing access to network elements that are not directly reachable, comprising:

receiving and sending packets over a first IP based interface to a first network;

receiving and sending packets over a second IP based interface to a second network, wherein IP addresses of network elements in the second network are not visible to network elements in the first network; and

filtering out packets received over the second IP based interface that specify the gateway network element as the source.

5   9.   The method of claim 8, further comprising sending packets over the first IP based interface that specify the gateway network element as the source.

10.   The method of claim 8, further comprising accepting packets received over the first IP based interface if the destination address specifies the gateway network

10   element, a subnet broadcast address or a multicast address.

11.   The method of claim 8, further comprising accepting packets received over the second IP based interface if the destination address specifies the gateway network element, a network element in the second network or a multicast address.

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12.   The method of claim 8, further comprising implementing a proxy server that provides forwarding between IP address of the first and second networks.

13.   The method of claim 8, wherein the first network is a DCN.

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14.   The method of claim 8, wherein the first network is a DCC.

15.   A gateway network element that provides access to network elements that are not directly reachable, comprising:

25   a processor that is directed by code;

code that receives and sends packets over a first IP based interface to a first
network;

code that receives and sends packets over a second IP based interface to a second
network, wherein IP addresses of network elements in the second network are not visible
to network elements in the first network; and

code that sends packets over the first IP based interface only when the packets
specify the gateway network element as the source.

16. A gateway network element that provides access to network elements that
are not directly reachable, comprising:

a processor that is directed by code;

code that receives and sends packets over a first IP based interface to a first
network;

code that receives and sends packets over a second IP based interface to a second
network, wherein IP addresses of network elements in the second network are not visible
to network elements in the first network; and

code that accepts packets received over the first IP based interface if the
destination address specifies the gateway network element, a subnet broadcast address or
a multicast address.

17. A gateway network element that provides access to network elements that
are not directly reachable, comprising:

a processor that is directed by code;

code that receives and sends packets over a first IP based interface to a first network;

code that receives and sends packets over a second IP based interface to a second network, wherein IP addresses of network elements in the second network are not visible to network elements in the first network; and

code that accepts packets received over the first IP based interface if the destination address specifies the gateway network element, a subnet broadcast address or a multicast address.

code that accepts packets received over the second IP based interface if the destination address specifies the gateway network element, a network element in the second network or a multicast address.